

CLAIMS

1. An elevator group control apparatus for an elevator system where a plurality of cars can move in each shaft independently of each other, comprising:

a destination floor registration device which is installed at each hall and can register destination floors and indicates to passengers which cars will respectively respond to serve for the registered destination floors;

zone setting means for setting priority zones and a shared zone to upper cars and lower cars;

entrance judgment means for judging whether the shared zone set by the zone setting means is allowed to be entered by an upper car or a lower car;

safety standby means for putting a car on standby based on the judgment result of the entrance judgment means;

withdrawal means for withdrawing a car to a withdrawal floor as necessary after a service is completed by the car;

assignment candidate selecting means for selecting a car as a candidate for assignment to a destination call generated at a hall if it is judged, according to the destination to be served by each car and the zones set to each car, that the car would cause neither collision nor

safety stop; and

assignment means for finally determining which car to assign based on the selection result of the assignment candidate selecting means.

2. An elevator group control apparatus according to Claim 1, wherein said destination floor registration device includes: destination floor registration buttons to respectively register destination floors; and response car indication panels placed respectively adjacent to the destination floor registration buttons.

3. An elevator group control apparatus according to Claim 1, wherein the zone setting by said zone setting means is such that: a lobby floor and lower floors are set as the priority zone of the lower cars; uppermost floors which account for about a half of the total number of floors are set as the priority zone of the upper cars; and the remaining intermediary floors are set as a shared zone.

4. An elevator group control apparatus according to Claim 1, wherein if the other car is present in the shared zone when a car reaches an entrance judgment floor, said entrance judgment means decides to stop said car at the entrance judgment floor if the other car is coming closer to said car and decides to let said car through if the other car is moving in the same direction as said car.

5. An elevator group control apparatus according to

Claim 1, wherein upon completion of a service by a car, said standby means puts the car immediately on standby with the door closed if the car is present in the priority zone and withdraws the car to a certain floor in the priority zone if the car is present in the shared zone.

6. An elevator group control apparatus according to Claim 1, wherein said assignment candidate selecting means judges whether a car is scheduled to re-enter the shared zone and, if it is judged that the car is scheduled to re-enter, leaves the car as a candidate for assignment.

7. An elevator group control apparatus according to Claim 1, wherein said assignment candidate selecting means judges whether a car must re-enter the shared zone to serve a new destination call and, if it is judged that the car must not re-enter, leaves the car as a candidate for assignment.